

Plumage variation in African Goshawk *Accipiter tachiro* and its separation from congenetics in equatorial Africa

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Variation dans le plumage de l'Autour tachiro *Accipiter tachiro* et la distinction de ses congénères en Afrique équatoriale. Le plumage de l'Autour africain *Accipiter tachiro* présente une grande variation géographique et individuelle. Certains plumages liés à l'âge et au sexe, ainsi que d'autres caractéristiques, sont souvent mal décrits dans la littérature. L'auteur analyse les différences morphologiques caractéristiques et indique comment distinguer l'Autour africain d'autres espèces d'*Accipiter* en Afrique équatoriale, avec référence spéciale à l'Autour à flancs roux *A. castanilius*. Différents plumages adultes et immatures sont illustrés et comparés à ceux d'espèces similaires et sympatriques du genre *Accipiter*.

Summary. African Goshawk *Accipiter tachiro* displays remarkable geographical and individual variation; some of these plumages and other characteristics are often poorly described in the literature. Here I discuss the distinctive features and indicate how to separate African Goshawks from other *Accipiter* species in equatorial Africa, with special reference to Chestnut-flanked Sparrowhawk *A. castanilius*. Various adult and immature plumages are illustrated and compared with those of sympatric congenetics.

African Goshawk *Accipiter tachiro* is one of the commonest raptors in African forests and woodlands. However, in the field as well as in the museum tray, the species can be easily confused with others of the same genus. Indeed, individual morphological variation is quite extensive, and the species also displays remarkable geographical variation, whilst some age- and sex-related plumages and other characteristics are often poorly described in the literature. Because the species' breeding season is prolonged in equatorial regions (yet seasonal elsewhere) and post-juvenile moult can take almost 12 months, moulting birds can be present virtually year-round here. These birds in post-juvenile moult are especially tricky to identify. Like all *Accipiter* species worldwide, size dimorphism is the rule, with the female being the larger of the sexes: in African Goshawk the wing-chord of females is up to c.15% longer than that of males in Cameroon and up to c.19% longer in the eastern Democratic Republic of Congo (hereafter DRC; also Congo-Kinshasa). Weight differences are even more important: the female usually weighs almost twice as much as the male (Louette 2001, 2003). Although the forest forms are monomorphic in colour, with both sexes being colourful, Chapin (1932) already noted that in the woodland forms 'females have much less rufous on flanks and tibiae [than males] and often none at all'.

Taxonomy

The taxonomy of the genus *Accipiter* is not yet entirely clear. Robust results from molecular studies are best awaited in order to decide on the number of species in each of the three complexes (or 'superspecies')—Shikra *A. badius* (and relatives), African Little Sparrowhawk *A. minullus* (plus Red-thighed Sparrowhawk *A. erythropus*) and African Goshawk (which has several recognisable forms). Stresemann (1923) unified, purely on morphological grounds, all of the described taxa into a single species in each of these three cases. Then followed a long period of taxonomic stability and some recent works (Kemp & Kemp 1998, Borrow & Demey 2001, 2004, Ferguson-Lees & Christie 2001, Allan 2005) still consider African Goshawk as a single species. Under any of the phylogenetic species concepts, which tend to afford species rank to all recognisable forms, other works prefer to split African Goshawk into two species: African Goshawk *A. tachiro sensu stricto* and 'Red-chested Goshawk' *A. toussenelii* (Kemp 1994, Clark & Davies 2000, Sinclair & Ryan 2003) and this will also be the case in a forthcoming field guide to African raptors (W. S. Clark pers. comm.). All recent works retain Shikra as one species but separate African Little Sparrowhawk from Red-thighed Sparrowhawk.

Helbig *et al.* (2002) proposed guidelines for assigning species rank, and, anticipating the

results of molecular work by ML's team of the Royal Museum for Central Africa (RMCA), Tervuren, Belgium, it appears that it is still quite acceptable to provisionally apply the concept of 'superspecies' in the case of African Goshawk. There are behavioural arguments too, besides their morphological resemblance (Dowsett & Dowsett-Lemaire 1993). However, hybridisation between the woodland form *tachiro* and the forest form *toussenelii* is not yet proven in the contact region in Kivu, DRC (Louette 2003; and preliminary molecular work at the RMCA), and the plumage of some aberrant individuals might be due to age or individual variation. I therefore prefer to employ the term paraspecies for *tachiro* on the one hand, and for *toussenelii* on the other (Louette 2003, 2007). Each paraspecies has four morphologically identifiable regional populations consequently treated here as subspecies.

In mainland equatorial regions, there is just one subspecies in the paraspecies *tachiro* (*sparsimfasciatus*, which occurs from Angola to Somalia), but three in the paraspecies *toussenelii* (from west to east: *macroscelides*, from Senegal to westernmost Cameroon; nominate *toussenelii*,

from Cameroon to western DRC; and *canescens*, in central and eastern DRC) (see Fig. 1). The close relationship of all subspecies of African Goshawk is demonstrable when examining the endemic island forms. The subspecies *lopezi*, restricted to Bioko Island, in the Gulf of Guinea, is a member of the *toussenelii* paraspecies. It is well saturated with rufous below, especially on the breast, flanks and thighs and, in some, on the throat, the latter a feature unique to this population, although it is derived from *macroscelides* (Louette 2001). On the opposite side of Africa, subspecies *pembaensis*, a member of the *tachiro* paraspecies, is endemic to Pemba Island, off Tanzania. This bird is more deeply coloured than its founder population, *sparsimfasciatus* in mainland Tanzania and on Zanzibar (Louette 1995).

The isolated Ethiopian form *unduliventer*, which persists within 'ecological islands', is intermediate in coloration between the two paraspecies. According to the preliminary molecular results, it could either be included in the *tachiro* paraspecies or separated in its own, third, paraspecies.



Figure 1. Distribution of African Goshawk *Accipiter tachiro* subspecies.
Répartition des sous-espèces de l'Autour *tachiro* *Accipiter tachiro*.

Size and plumage variation in African Goshawk

There is a cline in size in equatorial Africa, from large East African to small West African birds: eastern DRC birds have a *c.*16% longer wing-chord than those from Liberia, but again, the mass difference is no doubt much greater, probably *c.*40% (Louette 2001, 2003). Thus, *macroscelides* in West Africa is the smallest subspecies, *toussenelii* is slightly larger and *canescens* is again somewhat larger, with *sparsimfasciatus* being the largest, sex for sex; in the field, however, this will barely be noticeable.

The pattern of spotting (in the juvenile) and barring (in the adult) of the breast feathers is variable among all subspecies (from heavily in most subspecies to an almost unspotted immature in *toussenelii* and *canescens* and an unbarred adult *canescens*). I have explained elsewhere (Louette 2000, 2007) that plumage characteristics are functionally related to habitat (e.g. with plumage colour intensity increasing with habitat density), age and possibly mimicry.

The adult female of the woodland *sparsimfasciatus* is cryptically coloured (probably related to nesting activities), with individual variation, possibly helpful for 'image avoidance' (so that potential prey does not learn the predator's colour pattern). Specimens from DRC can be separated into two general morphs (with buff and whitish bellies), but with a variable amount of ventral barring. (Here the term 'morph' is used, although Thomsett (2007) prefers to use 'phase' for a transitional plumage.) The adult male is even more variably coloured, which is in part age-related. A so-called 'sepia' morph—a misleading name—exists (Plate 2: 4); this may be a 'first adult' (subadult) plumage; it occurs in at least part of the range (southern and eastern DRC, Burundi, Kenya, Tanzania). Nevertheless, some immatures, in their first (post-juvenile) moult, are definitely buff or white ventrally, just like adult females. These (subadult) plumages, lacking the reddish flanks, may help to avoid aggression from older, territorial males. But these morphs also exist in adults, with no remaining juvenile feathers. The 'standard' morph has not yet been found in subadults, and may therefore well be restricted to older birds. It has whitish underparts, finely barred and dark grey upperparts and reddish flanks, supposedly becoming darker

with age; it could be more conspicuous than the buff and sepia morphs. This might assist in territorial defence or be preferred by females. On Plate 2, a wide variety of *sparsimfasciatus* plumages is illustrated. Notice the paler general colour of the 'sepia' morph compared to the 'standard' birds. The specimen used for this illustration is young. Its juvenile characteristics (the as yet unmoulted rufous-fringed uppertail-coverts, see Louette 2003) are invisible on the plate.

The adult evergreen forest *canescens* shows enforcement of colourful advertising plumage and loss of sexual plumage dimorphism—more pronounced colours may be useful for display in the shade of the equatorial forest. Here, the first adult plumage is heralded by the late moult of the barred juvenile flank-feathers in both sexes. Its juvenile is peculiar: it lacks (or has very few) breast spots, suggesting image avoidance, but possibly also character displacement (in order to help differentiate individuals from Chestnut-flanked Sparrowhawk *A. castanilius*) or mimicry (of adult Black Sparrowhawk *A. melanoleucus*).

A rare melanistic morph, in both adult and immature, is only known in East African *sparsimfasciatus*.

The 'normal' immature of *sparsimfasciatus* has two morphs: one with a whitish, the other with a buffish ground colour (respectively 22 and 17 specimens in the RMCA collection).

Common identification problems

1. Separating African Goshawk from Chestnut-flanked Sparrowhawk

In the rain forest zone, Chestnut-flanked Sparrowhawk is the most likely candidate to be confused with the local brightly coloured African Goshawk of the *toussenelii* paraspecies. This is true for immatures as well as for adults and is mainly due to their similar size and superficially similar coloration, combined with poor descriptions and illustrations in some handbooks and field guides. Chestnut-flanked Sparrowhawk is undoubtedly still one of Africa's least-known raptors. Louette (1992) provided a key for distinction in the hand, and Louette & Herroelen (2007) were the first to publish a photograph.

Unfortunately, several publications (among them Snow 1978) and some museum catalogues mention Chestnut-flanked Sparrowhawk in their



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Plate 1. Adults of the forest taxa (with two woodland birds for comparison).

Chestnut-flanked Sparrowhawk *Accipiter castanilius*

1–2 Adult female

3 Adult male

Illustrated are the extremes in variation in the amount of red intermingled with black in the breast barring (which exists in both sexes). The dark cast to the yellow legs and feet is probably a good field character for perched birds. Both sexes are very similar in coloration and mainly differ in size.

Red-thighed Sparrowhawk *A. erythropus*

4 Adult female *A. e. erythropus*

5 Adult male *A. e. zenkeri*

A small species with heavily contrasting plumage colours and especially conspicuous white throat and uppertail-coverts.

African Goshawk *A. tachiro*

6 Adult female *A. t. macroscelides*. Underparts are orange-chestnut barred whitish; the white throat is finely barred grey.

7 Adult male *A. t. toussenelii*. Note the very lightly barred, silvery grey throat.

8 Adult female *A. t. sparsimfasciatus*. A typical individual.

9 Subadult male *A. t. sparsimfasciatus*. This c.1-year-old individual is unusual as it has no rufous on its flanks.

10 Adult female *A. t. canescens*.

11 Adult female *A. t. canescens*. A less barred individual.

12 Adult male *A. t. canescens*.

Adult *A. t. canescens* is less heavily barred whitish below than *macroscelides* and most *toussenelii*, and also than Chestnut-flanked Sparrowhawk. Some *toussenelii* and *canescens*, especially in the south-west of the range, are almost plain rufous below, with a silvery cast. Adults of both sexes of the paraspecies *toussenelii* are very similar in coloration.

lists or among their holdings from West Africa, but my examination of specimens proves this to be incorrect in all cases. This species has also been erroneously mentioned from Ethiopia (BirdLife International 2009). Chestnut-flanked Sparrowhawk is definitely known only from the equatorial forest belt from Nigeria to DRC, where it seems to be quite common. There are 101

Planche 1. Adultes des taxons forestiers (accompagnés de deux oiseaux provenant de la savane arborée pour comparaison).

Autour à flancs roux *Accipiter castanilius*

1–2 Femelle adulte

3 Mâle adulte

Nous avons illustré les extrêmes dans la variation du rouge mêlé de noir dans les barres horizontales de la poitrine (présentes dans les deux sexes). Le saupoudrage noir des tarses et des pieds jaunes est probablement un bon critère d'identification sur le terrain pour les oiseaux perchés. Les deux sexes sont de coloration très similaire et différent surtout en taille.

Epervier de Hartlaub *A. erythropus*

4 *A. e. erythropus* femelle adulte.

5 *A. e. zenkeri* mâle adulte.

Une petite espèce aux couleurs du plumage très contrastées, d'où ressortent la gorge et les sus-caudales blanches.

Autour tachiro *A. tachiro*

6 *A. t. macroscelides* femelle adulte. Les parties inférieures sont orange marron barrées de blanc ; la gorge blanche est finement barrée de gris.

7 *A. t. toussenelii* mâle adulte. Noter la gorge gris argenté et très légèrement barrée.

8 *A. t. sparsimfasciatus* femelle adulte. Un individu caractéristique.

9 *A. t. sparsimfasciatus* mâle subadulte. Ce spécimen d'environ un an est particulier par l'absence de coloration rousse sur les flancs.

10 *A. t. canescens* femelle adulte.

11 *A. t. canescens* femelle adulte. Un spécimen dont les barres sont moins évidentes.

12 *A. t. canescens* mâle adulte.

Les barres blanches sur les parties inférieures de *A. t. canescens* adulte sont moins apparentes que chez *macroscelides*, la plupart des *toussenelii*, ainsi que chez l'Autour à flancs roux. Certains *toussenelii* et *canescens*, et surtout ceux provenant du sud-ouest de leur aire de répartition, ont les parties inférieures quasi uniformément rousses et saupoudrées de gris argenté. Les adultes des deux sexes de la para-espèce *toussenelii* sont de coloration très similaire.

specimens of Chestnut-flanked Sparrowhawk in the collection of the RMCA, compared to 127 specimens of *toussenelii*—all collected randomly during colonial times—suggesting that both are about equally common in forested DRC, unless there is a behavioural difference, which would make one or the other more prone to be collected. The range of Chestnut-flanked Sparrowhawk thus

Table 1. Identification features of adults of five *Accipiter* taxa from mainland equatorial regions: four subspecies of African Goshawk *A. tachiro* and Chestnut-flanked Sparrowhawk *A. castanilius*.

Tableau 1. Critères d'identification des adultes de cinq taxons de *Accipiter* de régions équatoriales continentales : quatre sous-espèces de l'Autour tachiro *A. tachiro* et l'Autour à flancs roux *A. castanilius*.

	<i>Accipiter tachiro</i>				<i>Accipiter</i>
	<i>macroscelides</i>	<i>toussenelii</i>	<i>canescens</i>	<i>sparsimfasciatus</i>	<i>castanilius</i>
Upperparts	slate-grey	grey	grey	male: variable; mostly dark grey; female: blackish brown	blackish
Throat	white, finely barred grey	plain silvery grey	white or grey	pale grey, finely streaked	white, finely streaked
Breast and belly	rufous barred greyish white	rufous barred whitish or grey	most: (almost) unbarred rufous; some: as <i>toussenelii</i>	whitish barred grey	dirty white with bold blackish-brown bars (sometimes with chestnut traces)
Flanks	rufous	rufous	rufous	barred greyish brown (male) or brown (female)	chestnut
Thighs	rufous	rufous	greyish white	barred greyish brown (male) or brown (female)	plain chestnut
Tail	blackish with three relatively large white spots			white spots present, less distinct or absent	blackish with 3–4 relatively large spots
Irides	usually yellow, occasionally orange				usually red
Legs and feet	bright yellow	bright yellow	bright yellow	bright yellow	bright yellow with black cast

Table 2. Identification features of immatures of five *Accipiter* taxa from mainland equatorial regions: four subspecies of African Goshawk *A. tachiro* and Chestnut-flanked Sparrowhawk *A. castanilius*.

Tableau 2. Critères d'identification des immatures de cinq taxons de *Accipiter* de régions équatoriales continentales : quatre sous-espèces de l'Autour tachiro *A. tachiro* et l'Autour à flancs roux *A. castanilius*.

	<i>Accipiter tachiro</i>				<i>Accipiter</i>
	<i>macroscelides</i>	<i>toussenelii</i>	<i>canescens</i>	<i>sparsimfasciatus</i>	<i>castanilius</i>
Upperparts	dark brown	blackish brown	blackish brown	brown	dark brown
Throat	dark brown mesialstripe	white	white	white with central streak	white with central streak
Breast	drop-like spots	few or no spots	few or no spots	drop-like spots	heavily spotted
Belly	drop-like spots	white	white	white	white with a variable amount of spots
Flanks	barred dark brown	broadly barred dark brown	variable; some heavily streaked	spotted	heavily streaked or barred
Thighs	barred dark brown	white	white	drop-like spots	barred with wider bars than <i>toussenelii</i> paraspecies
Legs and feet	yellow	yellow	yellow	yellow	yellow with black cast

partially overlaps with that of the three mainland forms of the *toussenelii* paraspecies.

Adult Chestnut-flanked Sparrowhawk has dark blackish upperparts and head-sides; in the sympatric African Goshawks these are paler slate-grey (in *macroscelides*) or grey (in *toussenelii* / *canescens*). Ventrally, the flanks of Chestnut-flanked Sparrowhawk are also darker (chestnut

vs. orange or rufous in the *toussenelii* paraspecies) and the breast and belly are dirty white with bold, dark blackish-brown bars, sometimes with chestnut traces; in African Goshawk these parts are rufous barred whitish or grey (in *toussenelii* and some *canescens*) or (almost) unbarred rufous (in most *canescens*) or whitish barred grey (in *sparsimfasciatus*). The thighs are plain chestnut

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Plate 2. Variation in adult African Goshawk woodland taxon and flight patterns of different species

- 1–2 Adult male *A. t. sparsimfasciatus* in flight. The variation in the amount of reddish on the flanks and the underwing in *A. t. sparsimfasciatus* is quite extensive. In adults the heavy colour saturation overall is more often than not correlated to an almost unpatterned underwing. However, underwing pattern is quite variable, as shown here.
- 3 Adult male *A. t. sparsimfasciatus*. A particularly dark specimen from south Sudan.
- 4 Apparently subadult male *A. t. sparsimfasciatus* in the sepia morph.
- 5 Adult male *A. t. sparsimfasciatus*. Another variant with more rufous colour in the barring, possibly an old individual.
- 6 Adult male *A. t. sparsimfasciatus*. A normal, dark male with typically barred underparts and rather pronounced rufous flanks.
- 7 Adult female *A. t. sparsimfasciatus*. Some birds from Kivu, eastern DRC, and especially those from Idjwi Island in Lake Kivu, like this female, have a yellowish or even chocolate wash to the underparts.
- 8 Adult female *A. t. sparsimfasciatus*. A bird with heavily barred underparts and reddish flanks which was suspected to be a hybrid *canescens* / *sparsimfasciatus* (see Louette 2003).
- 9 Adult Red-thighed Sparrowhawk *A. erythropus* in flight. Red-thighed Sparrowhawk is, with African Little Sparrowhawk *A. minullus*, unique amongst the African *Accipiter* in having a white band on the uppertail-coverts.
- 10 Adult Chestnut-flanked Sparrowhawk *A. castanilius* in flight. The tail spots are small but quite apparent.
- 11 Adult *A. t. macroscelides* in flight. Tail spots are variable and may be absent.
- 12 Adult *A. t. sparsimfasciatus* in flight. Tail spots are variable and may be absent.

in Chestnut-flanked Sparrowhawk; they are quite variable in the African Goshawk: rufous barred white or greyish, rufous mixed with white or grey, plain grey or white barred grey. In the southern part of the range of *toussenelii*, there is a silvery grey barring or cast over the orange-rufous ground colour of the ventral side and the thighs. The throat is white with some faint, narrow grey bars in Chestnut-flanked Sparrowhawk, whereas it is plain silvery grey in *toussenelii* and white in *canescens*; in the mainly allopatric *macroscelides*, however, the white throat is also finely barred.

Planche 2. La variation chez l'Autour tachiro *Accipiter tachiro* adulte du taxon de la savane arborée et patterns en vol de différentes espèces

- 1–2 *A. t. sparsimfasciatus* mâle adulte en vol. La variation dans l'intensité de la coloration rousse sur les flancs et le dessous de l'aile chez *A. t. sparsimfasciatus* est considérable. Chez l'adulte une coloration intense sur l'ensemble du corps est souvent corrélée à un dessous d'aile sans dessin caractéristique. Cependant, le dessin du dessous de l'aile est fort variable, comme montré ici.
- 3 Mâle adulte *A. t. sparsimfasciatus*. Un spécimen particulièrement foncé provenant du sud du Soudan.
- 4 *A. t. sparsimfasciatus* probablement mâle subadulte de la forme sépia.
- 5 *A. t. sparsimfasciatus* mâle adulte. Une autre variante, avec plus de coloration rousse dans les barres, peut-être un individu âgé.
- 6 *A. t. sparsimfasciatus* mâle adulte. Un mâle foncé caractéristique, présentant les barres typiques dessous et une coloration rousse prononcée sur les flancs.
- 7 *A. t. sparsimfasciatus* femelle adulte. Quelques oiseaux du Kivu, de l'est de la RD Congo, et notamment ceux de l'île Idjwi sur le lac Kivu, comme cette femelle, ont les parties inférieures lavées de jaune ou même de brun chocolat.
- 8 *A. t. sparsimfasciatus* femelle adulte. Un oiseau au dessous fortement barré et aux flancs roux qui fut suspecté d'être un hybride *canescens* / *sparsimfasciatus* (voir Louette 2003).
- 9 Epervier de Hartlaub *A. erythropus* adulte en vol. L'Epervier de Hartlaub (ainsi que l'Epervier minule) est unique parmi les *Accipiter* africains par la bande blanche sur les sus-caudales.
- 10 Autour à flancs roux *A. castanilius* adulte en vol. Les taches sur la queue sont petites mais bien apparentes.
- 11 *A. t. macroscelides* adulte en vol. Les taches sur la queue sont variables et peuvent être absentes.
- 12 *A. t. sparsimfasciatus* adulte en vol. Les taches sur la queue sont variables et peuvent être absentes.

The two species have white spots on the upper tail (Plate 2: 10–11).

Adult female Chestnut-flanked Sparrowhawk is not noticeably smaller than male African Goshawk in the area of overlap, but the black breast barring, bright chestnut flanks and deeply coloured chestnut thighs distinguish it from its congener (Plate 1: 1–2).

Immature African Goshawks are quite variable according to subspecies and region: *toussenelii* and especially *canescens* are only sparingly spotted ventrally, some even without spots; in *macroscelides*



Allegri.

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Alfred R. Barros

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Plate 3. Immatures (with adult Black Sparrowhawk *A. melanoleucus*)

- 1 Immature male *A. t. macroscelides*. Resembles immature Chestnut-flanked Sparrowhawk (2); they are, however, sympatric only in southern Nigeria and westernmost Cameroon.
- 2 Immature female *A. castanilius*. Note the browner upperparts than *A. t. macroscelides*, more richly coloured barring on the flanks and thighs, the different shape to the 'tear-drop' breast markings, and more mottling on the nape and back.
- 3 Immature female *A. e. erythropus*. Upperparts darker than in any race of *tachiro*.
- 4 Immature female *A. e. zenkeri*. The underparts pattern is quite distinctive: buffy-white with uniquely spotted breast-sides and dark-barréd flanks slightly washed rusty.
- 5 Adult male *A. melanoleucus*. Note black patches on flanks and thighs.
- 6 Immature male *A. t. sparsimfasciatus* (buff morph). Generally a brownish bird, with much less contrasting plumage than immatures of the *tousсенелии* paraspecies.
- 7 Immature female *A. t. sparsimfasciatus* (white morph). Somewhat more contrasting than 6.
- 8 Immature female *A. t. canescens*. May look superficially similar to 5, but has many fewer or no black markings on flanks and plain white thighs.
- 9 Immature male *A. t. canescens*. As 8, but distinctly smaller.
- 10 Immature male *A. t. tousсенелии*. May look superficially similar to 5, but has many fewer black markings on flanks and thighs. Some specimens of this subspecies have slightly more brown markings on the underparts.

the spotting is well marked (Plate 3: 1, 8–10). Nevertheless, the sympatric subspecies can be difficult to separate from immature Chestnut-flanked Sparrowhawk, which however always has heavy ventral spotting. Immature Chestnut-flanked Sparrowhawk also has darker brown upperparts (especially after the rufous juvenile feather tips have worn off) and the brown bars on the thighs are equally both darker and wider than in the paraspecies *tousсенелии*. Within the range of Chestnut-flanked Sparrowhawk the confusion forms would be *macroscelides* in south-east Nigeria

Planche 3. Immatures (avec l'adulte de l'Autour noir *A. melanoleucus*)

- 1 *A. t. macroscelides* mâle immature. Ressemble à l'immature de l'Autour à flancs roux (2) ; ils ne sont toutefois sympatriques qu'au sud du Nigeria et dans l'extrême ouest du Cameroun.
- 2 Autour à flancs roux *A. castanilius* femelle immature. Noter les parties supérieures plus brunes que chez *macroscelides*, les barres sur les flancs et les cuisses plus richement colorées, les formes différentes des marques sur la poitrine, et le dos et la nuque plus marbrés.
- 3 Epervier de Hartlaub *A. e. erythropus* femelle immature. Les parties supérieures sont plus foncées que chez n'importe quelle sous-espèce de *tachiro*.
- 4 Epervier de Hartlaub *A. e. zenkeri* femelle immature. Le pattern des parties inférieures est assez caractéristique : blanc chamois avec les côtés de la poitrine tachetés et les flancs avec des barres sombres légèrement lavées de roux.
- 5 Autour noir *A. melanoleucus* mâle adulte. Noter les taches noires sur les flancs et les cuisses.
- 6 *A. t. sparsimfasciatus* mâle immature (forme chamois). En général un oiseau brunâtre, avec un plumage beaucoup moins contrasté que les immatures de la para-espèce *tousсенелии*.
- 7 *A. t. sparsimfasciatus* femelle immature (forme blanche). Quelque peu plus contrastée que 6.
- 8 *A. t. canescens* femelle immature. Peut sembler superficiellement similaire à 5, mais possède beaucoup moins ou quasi pas de marques noires sur les flancs. De plus, les cuisses sont uniformément blanches.
- 9 *A. t. canescens* mâle immature. Comme 8, mais nettement plus petit.
- 10 *A. t. tousсенелии* mâle immature. Peut paraître superficiellement similaire à 5, mais possède beaucoup moins ou quasi pas de marques noires sur les flancs et les cuisses. Certains spécimens de cette sous-espèce présentent légèrement plus de marques brunes sur les parties inférieures.

/ south-west Cameroon or a small juvenile male *sparsimfasciatus* (as illustrated on Plate 3). Immature / juvenile *tousсенелии* and *canescens* are easier to separate, as they have a plainer white breast with fewer or no drop-shaped markings. Chestnut-flanked Sparrowhawk's tail has fewer and smaller white spots than sympatric African Goshawk. If seen well the darker legs and feet of the former should be distinctive in both adults and immatures.

Photographs suggest some differences in the amount of naked skin around the eye, the cere,

bill, legs and feet colours, and the head shape. Adult Chestnut-flanked Sparrowhawk may have the brighter yellow cere and facial skin of the two, but this could be due to temporal, individual or even sexual variation. There is a photograph taken at the nest in Kenya of a male *sparsimfasciatus* showing a restricted amount of naked skin around the eye (van Someren 1956), whereas this seems quite extensive in the female. Legs and feet are yellow in both species, but in Chestnut-flanked Sparrowhawk it seems as if a black cast has been put over the yellow ground colour. The head of Chestnut-flanked Sparrowhawk is proportionately wider (Louette & Herroelen 2007; Plate 1: 1).

An *Accipiter* photographed by M. Wilson, at Bwindi, Uganda (Figs. 2–3), provoked a discussion. Chestnut-flanked Sparrowhawk is not yet known for Uganda, but its occurrence in this border area with DRC is plausible. Obviously, it is in adult plumage. However, the bird does not show the decidedly black dorsal plumage colour, or the dark cast to the yellow legs and feet, which are so obvious in Chestnut-flanked Sparrowhawk. Other features of the Bwindi bird are the barred flanks and thighs; these are plain chestnut in Chestnut-flanked Sparrowhawk but barred in *sparsimfasciatus*, the subspecies of African Goshawk in this area. Additionally, the white tail spots are indistinct; the bars on the vent are single-coloured reddish and lack the black component typical of Chestnut-flanked Sparrowhawk. A female *sparsimfasciatus* is large and much paler than the bird in the photograph, and the relative length of the tail and the size of the person's hand both indicate that the bird's size was approximately correct for a male. The bars on the breast are bicoloured, which is not the rule for a male, but not impossible.

2. Separating African Goshawk from larger *Accipiter* species

The peculiar immature female of African Goshawk in west-central Africa, between Cameroon and DRC (*canescens* and *toussenelii*), which sometimes lacks ventral spots, could be confused with adult male Black Sparrowhawk (Plate 3: 5 and 8). Superficially, the latter differs only in that it has more extensive black patches on the flanks and even more on the thighs (it also has the typical adult red irides, whereas the immature female

African Goshawk still has brown or pale yellow eyes).

3. Separating African Goshawk from smaller *Accipiter* species

When size is difficult to appreciate in the field, confusion of the small *toussenelii* males is also possible with the generally smaller Red-thighed Sparrowhawk; in fact, the largest females of Red-thighed Sparrowhawk attain just about the same size as the smallest males of Chestnut-flanked Sparrowhawk (Plate 1: 3–4). Adults of these two species have decidedly blackish upperparts (grey in *toussenelii*) and red eyes (orange or yellow in *toussenelii*). Male Red-thighed Sparrowhawk is noticeably smaller. Just as in African Goshawk, the western nominate subspecies of Red-thighed Sparrowhawk is smaller than the eastern subspecies *A. e. zenkeri*, but to a lesser extent (*c.* 5% difference in wing-chord: Louette 2002), and it is usually less saturated with rufous on the ventral side than the eastern one (see Borrow & Demey 2001). The ventral colour of female *A. e. zenkeri* is usually, but not always, overlain with silvery grey, as is the case with most *toussenelii*.

In woodland, where an appreciable size difference separates male *sparsimfasciatus* from female African Little Sparrowhawk, confusion is less likely, although the identification of a lone bird can prove difficult, even from a photograph, see e.g. www.birdquest.net/afbid/birdspecies.php?func=view&slideno=3&af_bs_id=276.

4. Separating African Goshawk from other similar raptors

Shikra is also a common woodland *Accipiter*; its iris is orange to red in the adult and its central pair of tail-feathers is plain (compared to other species discussed here, on Plate 2). Immature Shikra has a dark mesial throat stripe and contrasting blotches on the breast, which are lacking, indistinct or narrow in African Goshawk.

It is less likely that African Goshawk will be confused with Rufous-breasted Sparrowhawk *A. rufiventris* or Ovambo Sparrowhawk *A. ovampensis*; these species exhibit several features that distinguish them from the former and are well depicted in several handbooks (although a photograph of Ovambo Sparrowhawk is misidentified as *A. tachiro* in del Hoyo *et al.* 1994: 79). Long-tailed Hawk *Urotriorchis macrourus* has



Figures 2–3. African Goshawk / Autour tachiro *Accipiter tachiro sparsimfasciatus*, Bwindi, Uganda, 26 October 2000 (M. Wilson)

a much longer, graduated tail with a conspicuous white bar at its base. Gabar Goshawk *Micronisus gabar* has, among other differences, prominent white uppertail-coverts, even when immature.

Key features to check

1. Iris and cere colour. This is often a useful character for species recognition. The iris is red in most adult Chestnut-flanked and Red-thighed Sparrowhawks, but mostly yellow (occasionally orange) in African Goshawk. The cere is bright orangey-yellow in most Chestnut-flanked and Red-thighed Sparrowhawks but rarely so bright in the *toussenelii* paraspecies of African Goshawk. In *sparsimfasciatus* it is yellow or (more often) greenish-yellow (Chapin 1932, Zimmerman *et al.* 1996; specimens in RMCA); in southern Africa (nominate *tachiro*) it is grey or greenish-grey (Allan 2005, Kemp & Kemp 1998).

2. Leg and foot colour. Chestnut-flanked Sparrowhawk is peculiar among African *Accipiter* in having a blackish cast overlaying the yellow ground colour. All RMCA specimens show this feature, and this must be visible in live birds too. All adult African Goshawks have bright yellow legs and feet (although dark legs appear also on a *macroscelides* specimen from The Gambia, photographed by C. Barlow after it was kept in a fridge for ten years).

3. Tail spots in adults. *A. t. toussenelii*, *canescens* and *macroscelides* have three relatively large white spots on the uppertail. While these spots are largest in the *toussenelii* paraspecies, they also occur in some individuals of the *tachiro* paraspecies: in *sparsimfasciatus* some males have them, but others do not and some females also have spots, although these are less distinct. (In southern Africa's nominate *tachiro* only the male has uppertail spots: Allan 1997).

Conclusion

It is important to realise that in such a variable species as the African Goshawk, many characteristics should be taken into account before a definite identification can be made in those areas where it occurs alongside other *Accipiter* species. Whilst it cannot be excluded that individuals occasionally occur outside their normal range, this must be rare, because African Goshawks are sedentary. Therefore, the locality is an important clue to the taxon concerned and possible confusion species.

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